

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1. (Currently amended) A method for combining a first material and a second material, comprising the steps of:

- (a) providing a fluid which is near or in the supercritical fluid state,
- (b) at least partially dissolving the first material in the fluid,
- (c) only subsequently incorporating the solution of the first material and the fluid into the second material to form a single phase solution from the first material, the second material and said fluid, and
- (d) removing said fluid from said solution in order to leave the combined first and second materials.

2 - 3. (Canceled)

4. (Previously presented) A method as claimed in claim 1, wherein the second material is provided in a semi-solid or molten state.

5. (Previously presented) A method as claimed in claim 1, wherein the fluid is removed from said solution by reducing the pressure in order to vent the fluid to atmosphere as a gas.

6. (Previously presented) A method as claimed in claim 1, wherein the fluid is removed from said solution by suction.
7. (Previously presented) A method as claimed in claim 1, wherein the fluid is carbon dioxide, water, nitrogen or any combination thereof.
8. (Previously presented) A method as claimed in claim 1, wherein said solution is processed in order to produce a final product.
9. (Original) A method as claimed in claim 8, wherein the processing is extrusion or injection moulding.
10. (Previously presented) A method as claimed in claim 1, wherein the first material is a material which alters the function of the second material.
11. (Previously presented) A method as claimed in claim 1, wherein the first material comprises a mineral, a vitamin, a fullerene, a metal, a non-metal, a herb, a naturally occurring material, caffeine, an organic material, a plastics material, a monomer, an oligomer, a polymer, or any combination thereof.
12. (Previously presented) A method as claimed in claim 1, wherein a co-solvent is added to said fluid either before, after or during the formation of said single phase

solution.

13. (Original) A method as claim in claim 12, wherein the proportion of co-solvent to said fluid is about 1:20.

14. (Previously presented) A method as claimed in claim 12, wherein the co-solvent comprises methanol, ethanol, propanol, butyl alcohol, propylene carbonate, toluene, pentane, acetylacetone, octane, acetone or any combination thereof.

15. (Previously presented) A method as claimed in claim 1, wherein the second material comprises a polymer, a ceramic, a metal or wood.

16. (Cancelled)

17. (Previously presented) A method as claimed in claim 1, wherein the method is a continuous process.

18. (Previously presented) A method as claimed in claim 1, wherein the method is a polymer melt processing technique and wherein the second material is provided in a semi-solid or molten state.

19. (Previously presented) A method as claimed in claim 18, wherein the polymer melt processing technique is injection moulding, extrusion, blow moulding, vacuum

forming, thermoforming, or rotational moulding.

20. (Previously presented) A method as claimed in claim 19, wherein the technique is extrusion or injection moulding.

21. (Previously presented) A method as claimed in claim 1, wherein the second material is not swollen by the fluid.

22. (New) A method for combining a functional material and a bulk material during a polymer melt processing technique, wherein the functional material alters the function of the bulk material, comprising the steps of:

- (a) providing a fluid which is near or in the supercritical fluid state;
- (b) at least partially dissolving the functional material in the fluid to form a functional fluid;
- (c) introducing the functional fluid into polymer melt processing equipment;
- (d) separately introducing the bulk material into polymer melt processing equipment the bulk material being in a semisolid or molten state;
- (e) incorporating the functional fluid into the bulk material within the polymer melt processing equipment to form a single phase solution of the functional material, the bulk material and the fluid; and
- (f) removing said fluid from said solution in order to leave the combined functional and bulk materials.